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ABSTRACT

In "Suggestologiia," Georgi Lozanov discusses his theories of Suggestology, the scientific study of suggestion, and Suggestopedia, the application of suggestion to pedagogy. The Lozanov thesis cannot properly be understood in isolation, however, and Suggestology and Suggestopedia should be considered in relation to yoga, Soviet and Western work in suggestion and psychotherapy, the Russian school of physiological psychology and the Soviet concept of the unconscious, Soviet linguistics and pedagogy. Suggestology investigates the subsensory signals or subliminal stimuli which come from the physical or social environment and which are absorbed into the unconscious mind before receiving a conscious expression. Suggestion, especially spoken suggestion, activates the reserve capacities of the mind or the memory. Suggestopedia increases memorization capacities. Hypermnesia is facilitated by relaxation techniques (derived from yoga and autogenic therapy) which increase the subject's suggestibility to spoken suggestions or unconscious stimuli. The principal theoretical elements of Suggestopedia are: authority, infantilization, double-planeness, intonation, rhythm, and concert pseudo-passivity. The lack of scientific data in "Sugestologiia" may lead to a negative reaction to the Lozanov thesis. The right way to approach the thesis, however, may be to translate the underlying original ideas and to reconstruct the statistical evidence in accordance with the more rigorous and less ideologically oriented methods used in Western science. (Author/AM)

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Suggestology and Suggestopedia: The Theory of the Lozanov Method

W. Jane Bancroft

In 1970, Psychic Discoveries behind the Iron Curtain by Sheila Ostrander and Lynn Schroeder brought to the attention of the West Dr. Georgi Lozanov, a Bulgarian medical doctor and parapsychologist, head of the Institute of Suggestology in Sofia and founder of two separate but related disciplines: Suggestology (from the Latin suggestio and the Greek logia), the scientific study of suggestion, and Suggestopedia which, as its suffix indicates, is the application of suggestion to pedagogy. In 1971, in Sofia, Dr. Lozanov's thesis, Sugestologiia, was published in book form in the original Bulgarian and, in North America, an unofficial English translation became available to a number of individuals. The thesis revealed very few practical details about the uses to which suggestion might be put in the classroom and it became evident that, in order to learn about suggestopedic techniques or about the conduct of a foreign language class at the

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Institute of Suggestology, a personal visit to Bulgaria would be necessary.[1] Nonetheless, Sugestologiia (Suggestology) does present a wealth of material about the Bulgarian and Soviet approach to parapsychology and about Dr. Lozanov's theory of suggestion.

To a Westerner accustomed to a rational, logical presentation of theoretical points, backed up by factual details or statistical evidence, the Lozanov thesis (whether in the Bulgarian original or in its English translation) will, on more than one occasion, appear self-contradictory and disorganized. This seeming confusion concerning the theoretical presentation of Suggestology is in marked contrast to the structured approach of the Lozanov language class and seems to result from a different, non-Western training and from a desire to obscure a number of issues out of fear of political attack. However, it is possible, after numerous readings of Sugestologiia to piece together the various theoretical elements and to fit them together in something resembling a reasonably coherent pattern.

In the introductory pages to his thesis, Dr. Lozanov says that his tome will study or elaborate upon those subsensory mechanisms or unconscious elements which, in the final analysis, have a direct, positive effect on memorization. The theory of Suggestology, then, will be largely dealt with in its relation to Suggestopedia or, if you will, Suggestopedia has, as its starting point, psychological experiments aimed at increasing the capacities for memorization in the human brain. Education

is meaningless, says Lozanov, "if new skills are not memorized and made automatic so that they can be used as a basis for further study."[2] According to modern Soviet investigations, the average individual uses a very small percentage of the capacities of his brain--perhaps as low as four per cent. Following the Soviet line, Lozanov says that hypermnesia or "super-memory" can be achieved by a suggestive set-up or set, i.e., subsensory stimuli or signals directed towards the memory reserves of the unconscious. Yogis and others, according to investigations conducted by Lozanov and his staff, use these reserves in their phenomenal feats of rapid calculation and memorization of works of oral literature. Even the average individual, however, can be trained to use more of his "brain reserves" and to give these "unconscious capacities" a conscious expression.

The starting point for the investigations into hypermnesia made by the Institute of Suggestology was provided by Dr. Lozanov's knowledge of yoga (he is a yogi himself, in addition to being a medical doctor and psychotherapist). According to the original articles on the links between the Lozanov system and yoga--which articles provided the basis for the chapters on Suggestology in the Ostrander-Schroeder Psychic Discoveries behind the Iron Curtain and The ESP Papers (Bantam, 1976)--Lozanov studied hypermnesia in yogis in Bulgaria and India, he found (or knew) that hypermnesia is linked to certain techniques of relaxation and concentration and he conceived an educational system in which certain yoga exercises could be used, in the classroom, to induce

super-memory in students learning basic factual materials (of foreign languages, for example). The original articles (some of which appear, in translation, in The ESP Papers) and the sections on yoga in the Lozanov thesis are not as specific as one would like and one is obliged to ponder the often vague presentation of controversial material emanating from a communist country. Nonetheless, a number of points emerge. According to Sugestologiia (p. 15), the yogis needed hypermnesia to be able to preserve for future generations a given oral tradition. Among the Brahmins, for example, gifted children were subjected at an early age to a special kind of training which enabled them to develop their memory and to learn the vast body of ancient teachings by heart. Certain yogis had, as their sole occupation, the memorization of sacred writings so that, even if all the ancient books of India were destroyed and only one yogi remained alive, he would be able to restore the entire literature from memory.

While in India in 1967, Dr. Lozanov witnessed a demonstration by a Bombay yogi named Sha, a lawyer by profession, in which Sha gave evidence of his hypermnestic abilities regarding figures and objects. Sha's computer-like memory had been developed after three years of yoga exercises (p. 15). Since, by definition, average students would not be able to spend three years on yoga before enrolling in, say, a foreign language course, Lozanov quite obviously gave serious thought (both before and after his visit to India) to which yoga exercises could be adapted for use

in the classroom so that the students could reproduce, but in somewhat modified form, the super-memory of Sha and others like him.

Although referred to somewhat obliquely or disjointedly in the thesis, it is evident that the yoga investigations of Dr. Lozanov and his staff comprised two aspects: (1) an investigation of the physical exercises of Hatha yoga and a scientific measurement of changes in pulse and brain waves that occurred with each posture or asana; (2) a consideration of Raja (or royal) yoga with its emphasis on mental concentration, self-discipline and meditation. Attention was paid to the ties between Hatha yoga and Raja yoga, to the links between the Savasana posture and a state of relaxation, between certain breathing exercises and a state of mental concentration.

One of the reports quoted near the end of Suggestology (p. 427), the unofficial English translation of the Lozanov thesis, and which was omitted from the Bulgarian original, mentions that a course at the Institute of Suggestology begins with a certain preparatory training, "the aim of which is to accelerate the teaching of a given subject through suggestion (or auto-suggestion), under favorable conditions of physical and mental relaxation (auto-relaxation derived from yoga)." According to the original Lozanov thesis, mental concentration combined with a particular form of self-relaxation creates conditions for activating the auto-suggestive mechanisms and hence the capacities of the unconscious (or reserves of the mind) (p. 160).

For the proper combination of relaxation and concentration, the slowing down of the pulse and the induction of the alpha state

in which materials may be quickly absorbed, Lozanov and his staff found that the Savasana exercise and deep, rhythmic breathing were required. (Student questionnaires reproduced in the thesis refer (p. 34) to the "crux of the matter"--that of attaining a state of relaxation. Some students mentioned that the breathing exercises, at least initially, proved difficult). With the aid of specified breathing exercises, the students under investigation demonstrated volitional slowing down of the pulse (p. 162). According to Sugestologiia, "the Savasana exercise, developed in any psychotherapeutical system, such as autogenic training, is of significant importance as an initial point for discovering the possibilities of unconscious mental activity" (p. 163). While in a state of relaxation, students are more suggestible and can receive information more readily--in the form of "suggestions" coming from the environment or from the teacher.[3]

Before engaging in a philosophical and scientific discussion of suggestion and of its effects on the unconscious. Dr. Lozanov says that the phenomenon of suggestion exists in a wide variety of disciplines or areas. Suggestion is used, for example, in business, especially in advertising, to hit below the level of consciousness and to encourage consumers to buy goods without their being entirely aware of the reasons for which they are purchasing the products in question. The suggestive power of religion, of religious institutions and leaders has been demonstrated throughout history and has been the theme of numerous books. Suggestion, according to the Lozanov definition of subsensory stimuli directed toward the unconscious, has a place in the arts. Writers must

capture the attention of the reader and actors must win over their audiences by appealing to the emotions.

Like hypnosis, suggestion is usually considered to be a part of medicine in Bulgaria (as in the Soviet Union). Suggestion is used in both the hypnotic and the waking state by the doctor or psychotherapist and Dr. Lozanov, for example, has performed painless surgical operations using suggestion and/or hypnosis, instead of anesthetics. Both suggestion and hypnosis are used in the Soviet-bloc countries to cure neuroses and psychosomatic illnesses and to affect physiological and biochemical processes.

According to the Lozanov thesis, spoken instructions (combined with the attitude, expectation and authority of the doctor) have a suggestive nature, by definition, and engage the unconscious mental activity of the patient. In so-called "placebo" therapy, the value of suggestion is all-important; what is decisive is the tone of voice and gestures the doctor uses in order to achieve the desired therapeutical effect (p. 263). Experiments have proved that, in many cases, a placebo or medicine given to humor, rather than cure, the patient has actually been effective in the treatment of certain psychosomatic diseases. Suggestion may be used to eliminate the mental strain or physical pain connected with the illness; to establish a regime of rest; to achieve mutual confidence between doctor and patient; to remove the negative effect of certain stimuli related to the senses; to bring about an extended period of physiological sleep; to organize proper nutritional habits; to improve motivation and attitudes (p. 72).

In teaching, it is well known that there are popular and/or well-respected instructors with whom it is easy to learn and who maintain discipline effortlessly. According to the Lozanov thesis, it is quite obvious that there exist certain psychological or pedagogical techniques which are quite often unnoticed by the teachers themselves but which nonetheless help them to attract and to keep the attention of their students. More generally, suggestions or subsensory signals, both positive and negative, constantly emanate from the physical and social environment in which we live and these are often absorbed into the unconscious mind before being observed and/or analyzed by consciousness. Why do certain environments and certain individuals or groups have a depressing effect on us while others create a positive impression? Lozanov claims that the subsensory stimuli or signals coming from the milieu or from a given individual or group may affect us more directly than phenomena perceived by the conscious mind. Such elements in the pedagogical process as the physical set-up of the classroom, the teacher's facial expression, tone of voice, attitude towards the students--all of which constitute signals directed toward the unconscious--may be more directly responsible for results achieved by the students than the actual logical presentation of the material taught.[4] According to Lozanov, subsensory reactions, if provoked by a specific system, can affect memorization irrespective of the fact that the persons investigated are not aware of the existence of these reactions (p. 11). The aim of Suggestology is to investigate the weak,

or unnoticed, suggestions (or suggestive signals) which come from the physical and social environment and which are absorbed into the unconscious mind before receiving a conscious expression (pp. 56 ff).

In his discussion of the unconscious and of subsensory stimuli or suggestive signals affecting the unconscious, Dr. Lozanov is very much influenced, as one might expect, by Soviet psychological theory. (It is to be noted that the Lozanov thesis, Sugestologiia, was written for a Soviet university, the University of Kharkov, and that Bulgaria is one East-European country which closely follows the Soviet party line). Although more complex than it is often presented, Soviet psychology is very largely based on Marxism-Leninism and the theories of I. P. Pavlov. In the Soviet perspective, mental operations are properties or products of the brain, the highest form of organic matter; it is impossible to understand mental operations without a knowledge of the cerebral processes which underlie mental activity. Consciousness is a reflection of the objective (or external) world; in explaining mental processes, therefore, the psychologist, following Lenin's theory of reflection in which ideas are reflections of the material world, must take into account the objective reality these processes reflect. Neural-mental activity is conditioned by the form of existence of living beings and varies with changes in the form of existence. The development of human consciousness is therefore conditioned by changes in the material life of society and must be studied, not in the abstract, but in a concrete historical setting. Psychic life

develops in accordance with variations in the structure of the organism; human consciousness is linked to the development of man's social being. Consciousness is formed in practical activity and revealed in the course of activity. Changes in the content and form of practical activity can, therefore, greatly influence the organization and development of mental processes.[5]

In the Soviet view, the Freudian idea of the unconscious (or subconscious) is the exclusive property of Western bourgeois psychology, with its overtones of morbid sexuality, decadent individualism and subjectivism. In the "thaw" of the 1960's, however, while continuing to remain firmly opposed to the Freudian idea of the subconscious, Soviet psychologists were obliged (or permitted) to recognize the fact that there exist in man certain cognitive activities which affect behavior and which take place, as it were, beneath the threshold of consciousness. Unconscious forms of higher nervous activity were said to be cerebral processes which do, indeed, exist. Cognitive processes not entering consciousness could be said to regulate the activity of man in the manner of Pavlovian signals.[6]

Following the example of such prominent Soviet psychologists as F. V. Bassin, Lozanov presents arguments for the existence of the unconscious within the framework of dialectical materialism (or Marxism-Leninism), the Soviet physiological tradition of Sechenov, Bekhterev and Pavlov and the concept of the "set" as expounded by the Georgian psychologist, D. N. Uznadze. The unconscious is discussed in terms of a functional condition of

the nervous system and unconscious phenomena in terms of the memory of the brain. Suggestions are signals which emanate from the material world and which influence the nervous system. According to Bassin (and Lozanov), without a concept of the unconscious, it is impossible to understand automated (or automatic) actions, the function or structure of certain acts of behavior, the nature of dreams, motivation and resistance to disease (p. 182).

Lozanov claims that he is following in the footsteps of Pavlov, the most illustrious and best-known representative of the Russian school of physiological psychology, in defining suggestion from a physiological point of view as a typical conditioned reflex or temporary connection between organism and milieu (p. 84). Pavlov called the first signalling system that stream of stimuli which comes from the external world and which "signalizes" those objects necessary for the survival of the organism in a given environment. While this system is common to man and the higher order of animals, there is, in man, a second line of signals (or stimuli) made up of words. Words or speech do not directly "signalize" reality but rather the data of the first signalling system. Words are, therefore, "signals of signals" and, as such, constitute the Pavlovian second signalling system. Both forms of conditioned reflexes are acquired through individual experience in the course of ontogenesis and both enable the individual to adapt himself to the changing conditions of his environment. According to the Lozanov thesis, not only conscious, but also unconscious mental activities occur in the

interrelation of the two signalling systems (ideomotory, speech), especially when the nervous system is in a state of inhibition (i.e., in an inhibited, as opposed to an active state). In making this connection, Lozanov follows the reasoning of his mentor, F. V. Bassin who says:

> It is possible for various complex and psychologically rich experiences to be suppressed so that they are removed from consciousness but meanwhile remain intact in an inhibited condition so that, in the future, with weakening of inhibition, they will again enter consciousness. One may find numerous indications of this fact in the Pavlovian "Lectures on the Function of the Large Hemispheres," in "Pavlovian Clinical Wednesdays," and in many other sources.[7]

Lozanov's views are in accordance with Soviet psychology of the 1960's in which the Pavlovian conditioned reflex is said to be a phenomenon both physiological and psychological. Mental activity is higher nervous activity.

Within the tradition (or confines) of Soviet psychology or neurophysiology, there have been few attempts at a systematic review of the complex forms of noncognized (or unconscious) cerebral activity determined by the concrete psychological content of an objective situation and, in turn, influencing objective behavior. The only acceptable explanation of the unconscious in the Soviet Union is the theory of the "set" as expounded by D. N. Uznadze and as researched at the Uznadze Institute of Psychology of the Academy of Sciences of the Georgian Socialist Republic.

The model experiment (and the simplest one) conducted in the Uznadze Institute to demonstrate the phenomenon of "set" consists in the following: For several trials in a row, a subject

(with eyes closed) is given two spheres of equal weight but different volume, one in each hand, each always in the same hand. Then the subject is given spheres which are the same in both volume and weight. Asked which of these spheres is larger, the subject as a rule in this "critical" trial answers that the balls are of unequal size and that the larger sphere is in the hand which previously received the smaller sphere. According to Uznadze, underlying this "contrast illusion" of size or weight is a particular "internal state" or a peculiar change of the functional condition of the central nervous system. Analysis of this "state" or functional disturbance makes it possible to throw some light on its characteristics.[8]

First of all, this condition or "set" is completely dependent on the series of trials preceding the critical trial; it usually fails to appear in the absence of these preceding trials. Therefore, in principle, it appears to be a peculiar, extremely complex reflex reaction of the subject to an objective influence. Balls of equal size are perceived as being of unequal size in view of the fact that their perception was preceded by fixation of the set towards the perception of a larger and a smaller ball. Having been formed, the set is preserved over a given interval of time as a functional disturbance which may be objectively displayed by appropriate experimental measures but which is not directly available to the subject's consciousness. Notwithstanding its unconscious character, the set influences succeeding conscious experiences, predetermining in certain respects their character

and dynamics. The set arises in response to stimulation of a complex character and appears as a change of a complex type which is not localized within the limits of any one physiological system. The set has primary central neural components, the physiological explanation of which can only be provided by means of such research methods as electroencephalography, autocorrelation analysis, analysis of potentials using computers and so on. And finally, the set is not equally connected with the various cerebral systems, which makes it possible to speak of a certain cerebral localization of these conditions.[9]

According to Soviet psychologists, the concept of "set" provides an interpretation of the unconscious in terms of objective changes in the functional condition of the nervous system and as a special form of higher nervous activity, reflexly defined by environmental factors and influencing, in its turn, the ultimate behavior of the subject. In his thesis, Lozanov expresses the Soviet view that the Uznadze "set" is a state which is unconscious. Suggestion, especially spoken suggestion, creates the set and activates the reserve capacities of the mind. Hence, in the foundation of suggestion obviously lies the mechanism of the set (p. 175).

In accordance with the Soviet psychology of the 1960's, Lozanov's Sugestologiia emphasizes that the important role of unconscious mental activity cannot be denied. "There exist many facts in life and in clinical practice, from human hypnosis to physiological experiments, which show the importance of extraconscious mental activity for the correct understanding

of the individual, whether in good health or bad" (p. 101). The Lozanov thesis outlines three elements which prove the existence of the unconscious: unconscious mental activity during sleep (dreams, in particular); unconscious mental activity during hypnosis (age regression, for example); unconscious mental activity during a normal state of wakefulness (so-called extra-sensory perception or the absorption of subliminal stimuli from the environment).

Unconscious mental activities during sleep are many and diverse. Scientists and artists (Lozanov mentions Mendeleyev and Coleridge, among others) have received creative inspiration for their work during sleep; modern psychotherapy and medicine use techniques of suggestion during sleep for the process of healing. The creative unconscious mental operations during sleep may take the "free" form of uncontrolled dreams or these processes may be controlled for healing or education. Suggestions given to the patient during natural sleep at night are most often made without the patient's being able to remember the psychotherapeutical procedure itself (p. 102); nevertheless, these suggestions, made during night sleep, are carefully monitored by the doctor or psychotherapist and the patient must be trained or prepared in advance to receive them. Soviet hypnopedia or sleep-learning makes controlled use of unconscious mental processes during sleep for purposes of instruction in basic factual materials; the students are carefully trained in advance to program their sleep and to receive the appropriate materials (items

of foreign language vocabulary, for example) and the programs themselves are carefully worked out beforehand and recorded on tape in a suitable tone of voice by the instructor(s). In his discussion of unconscious mental activity during sleep, Dr. Lozanov refers (1) to the Pavlovian work on physiological conditions of sleep (on which, for example, the Soviet theoretical framework of hypnopedia is built); (2) to electroencephalographic investigations of sleep; (3) to discussions of "paradoxical" or "rapid-eye movement" sleep (as distinct from "orthodox" sleep).

The problem of sleep began to be investigated by Pavlov in the course of his experiments with animals (p. 106). During a number of experiments, the animals fell asleep and this hampered further work. Originating by accident, sleep became a subject of inquiry. According to Pavlovian theory, the brain is constructed from an astronomical number of brain cells or neurons. The two main functional states of living neurons known so far to modern science are the states of excitation and inhibition. The excitation of neurons can increase and enhance the activity of certain parts of the brain and also the organs with which certain neurons are connected. Inhibition, on the other hand, can "block" or "brake" large parts of the brain's "excited" sections (cerebral areas) and even deactivate the function of certain organs. It is important to note that even the simplest response of an organism is impossible unless the two states, excitation and inhibition, occur simultaneously. In the course of his experiments with animals, Pavlov established that sleepiness and sleep occur

when the process of inhibition begins to gain the upper hand in the constant interaction between these two processes of excitation and inhibition.

Pavlov elaborated the protective and restorative role of internal inhibition (i.e., sleep): the process that is so important in regulating and coordinating the central nervous activity which controls the entire organism. Pavlov claimed that inhibition is not a period of inactivity of the neurons. Rather he regarded the nature of sleep not only as a reduction of the external activity of the nerve cells but also as a considerable activation of the internal and restorative processes. Inhibition, paradoxically, is a highly active process within the neurons but this activity is of a special kind; sleep is a manifestation of protective and preventive inhibition occurring in the neurons of the brain. During internal inhibition, the neurons of the brain are "cut off" from external activity and nearly cease to respond to environmental signals. The "inhibited activity" of cerebral neurons during sleep is directed to specific functions, including perhaps their own repair on a biochemical level. For Pavlov, sleep is a necessary phase in the existence of the nervous system. Sleep is inherent to each cell.

Both Soviet and Western ideas support each other in that, during the fluctuation of excitation/inhibition and vice versa, inhibition of large cerebral areas (sleep on a physiological level) does not occur at once but gradually.[10] This gradual onset of internal inhibition or sleep is observable by studying

the various channels of an electroencephalograph. As an E.E.G. is recorded from currents of a multi-electrode device on the surface of the skull, it is possible to distinguish the bio-electrical activities of various cerebral areas. By comparing, for example, one area of the brain with another, one channel can show signs of sleep and the other signs of the waking state.

According to Pavlovian theory, before the onset of deep sleep, on the one hand, or the fully alert state, on the other, the brain cells are subjected to a number of intermediate states ("phasic states") on their functional level. The various stages of sleep may be distinguished one from the other by the frequency and amplitude of the brain waves as shown on the electroencephalographic tracings. The four main types of brain waves (alpha, beta, delta and theta) differ from each other by their oscillation frequencies and changes in their voltage are also subjected to alternation which can be caused by a number of factors.[11]

Electroencephalographic features of the cyclical variation of sleep stages during the entire night have shown two distinguishable types of sleep: orthodox sleep and paradoxical sleep. Orthodox (or slow-wave) sleep has a higher index of slow-frequency (theta and delta) components while paradoxical (or fast-wave) sleep has a significantly high index of fast-frequency (beta and alpha) low-voltage components similar and sometimes identical to those of the waking state. Scientists comparing the eye movements during orthodox and paradoxical sleep found sudden and jerky movements of the eyes in paradoxical sleep

while a slow, rolling movement of the eyes was characteristic of orthodox sleep. According to the Lozanov thesis, rapid eye movements occur four to five times during the period of night sleep (these periods last from about five minutes to about one hour) and are accompanied by accelerated pulse and breathing rates (pp. 111 ff). The rapid eye movements, which appear during paradoxical sleep, provide the name of R.E.M. sleep which has a high incidence of dream recalls. Lozanov's investigations confirmed that the changes that occur in the E.E.G. during rapid-eye movement sleep are analogical to the "alpha activity" that occurs during a state of wakefulness.

Following the argument of F. V. Bassin, Lozanov claims that the dreams characteristic of R.E.M. sleep are a manifestation of the unconscious (or unconscious mental activity). "This logical conclusion which F. V. Bassin made in summing up the results of modern neurophysiological investigations fully supports our concept of the unconscious forms of higher nervous activity which [. . .] play a decisive role in the materialization of the principal internal mechanisms of suggestion" (pp. 118-19). Soviet scientists in particular have used the period of paradoxical (or rapid-eye movement) sleep for hypnopedia or sleep-learning. Lozanov quotes F. V. Bassin to the effect that, on the basis of numerous investigations into the processing of information by the sleeping brain and into the physiological changes that accompany rapid-eye movement sleep, "it may be assumed that the electrophysiological manifestations of somnolent states of mind reflect, not only the basic and vitally important

metabolic activity of the nervous system, but also the unconscious processing of information" (p. 119).

According to Dr. Lozanov, there are many hypnotic phenomena which demonstrate (or have demonstrated) the existence and the significance of unconscious mental activities (p. 120). Suggested physiological and psychological changes have been known to take place while the subject was under hypnosis (the elimination of pain in surgical operations, for example). The hypno-suggestive activation of unconscious mental activity can be seen with particular clarity in hypnotic experiments involving changes in a subject's personality or mental functions. According to Lozanov, the largest amount of experimental material in this area is that concerning the still controversial problem of hypnotic age regression (p. 122).

Personality regression, the return to a past age with its corresponding functional states, is a frequent phenomenon in Soviet-inspired clinical practice for the treatment of mental illnesses. Dr. Lozanov's first investigations into hypnotic age regression were made in the early 1950's and the results were published in 1955 and 1959. Investigations were directed toward the examination of (1) eyeball movements; (2) handwriting; (3) drawings made by the hypnotized patients being treated for neurotic ailments (pp. 124-25). The question was asked whether the changes in the subject's behavior, speech, handwriting and world-outlook during the period of the suggested "past age" corresponded to the actual "lived-through" age (p. 123).

In experiments with hypnotic age regression, Lozanov found that, when the suggestion was made to a patient under hypnosis that he was two days old, his eye movements resembled the "floating" and "squint" eyes of a newly-born infant. There was also a distortion of the correct eyeball position and the absence of synchronized movements (p. 125). When the patient was told, for example, that he was eight years old, his drawings and handwriting resembled those of a child of eight. Although elements of later "age periods" were clearly apparent in the person hypnotized and "regressed" in age, the general behavior of the hypnotized patient(s) was that of the appropriate earlier "age period."

Lozanov puts the question as to whether the suggested, child-like age constitutes, in fact, a reincarnation of the child's personality. Or are there two types of age regression: one in which the subject recalls and replays past events and one in which the subject in actual fact returns psychically and physiologically to the suggested past functional level with the virtual disappearance of all experiences after the suggested age? And some scientists say that there is a third state which is a mixture of the two types of age regression (p. 131). Lozanov's results show that, in individual moments and for certain individual functions, true regression may be reached, in the sense of an actual return to a past functional level. Through hypnotic hypermnesia, evidence may be collected for the characteristic features of a given suggested age, which features

may then be acted out in the form of a play (p. 131). In this process of hypnotic age regression and/or play acting, materials may emerge from the patient's memories of his own development as well as from his observations of children.

Together with Soviet scientists, Lozanov has found that, under hypnosis, an individual personality may show marked improvement, especially in creative potential. Hypnosis releases inhibitions (or inhibiting processes) and conditions are created for the "enlivening" of deeply suppressed and older traces. It is well known, for example, that the child is more spontaneous and "creative" than the adult and that, in addition, the former can absorb larger amounts of material into his more active memory. "The hypermnesia mechanisms probably extend directly to the motory functions and the wider nerve structure" (p. 132). While such "creative" manifestations as hypermnesia do not last long under hypnosis (or rather, the hypnotic state cannot be prolonged beyond a certain point), Lozanov has found that the suggestion(s) involved in hypnosis can have a lasting effect, thanks to the skill of the physician or psychotherapist.

According to Lozanov, when a specific age is suggested to the hypnotized person, a necessary depth of retention is formed in order to suppress the newer and more inhibitable trace complexes and to create a temporary link with the trace complexes of the objective age. The suggestion: "Now you are eight years old" contains the following two components: (1) everything after the age of eight is non-existent; (2) there <u>is</u> an age of eight (pp. 132-33). In the Lozanov experiments in hypnotic age

regression, the drawings, handwriting and eye movements of the suggested age coincided with those of the objective age only when the age regression had been achieved successfully, i.e., when the two components (as mentioned above) were fused. This "fusion" produced a profound and sustained hypnotic state so that everything after the age of eight was forgotten (or suspended) and the general behavior was in accordance with that of a child of eight.

Hypnotic age regression shows that unconscious mental activity exists in the form of a memory of the brain--the complex of conscious and unconscious contents of the human psyche which comprise various past stages of individual development (pp. 134-35). In general, what occurs in experiments involving complete and/or partial age regression cannot be remembered after the subject is released from a state of hypnosis. When, for example, the suggestion is given to a hypnotized person to recite a given poem two hours after release from a state of hypnosis, the individual performs this act quite automatically, without understanding the reasons for his action. Once the subject emerges from the hypnotic state, the whole complicated mental activity in connection with the appropriate experiments remains outside the field of consciousness, i.e., in the regions of the unconscious and the higher nervous activity related to it.

According to Lozanov, unconscious mental activity in hypnosis may play an important role in maintaining an individual's good health. Therapeutical ecmnesia, the forgetfulness of recent

events, with normal memory (or more than normal memory) for remote ones, brings cathartically to the foreground those "unfully lived-through experiences" of a psychotraumatic nature which are a part of the unconscious. Ecmnesia and age regression also have a very close and useful relationship to hypnotic hypermnesia or super-memory; the clear recollection of past events, forgotten by the conscious mind, is most dramatically manifested in the personality of a subject regressed in age who has returned to a past functional level (p. 135). According to Lozanov, it is important to emphasize that hypnotic hypermnesia is one of the essential manifestations of unconscious mental activity under hypnosis. Hypermnesia can be observed in hypnotic age regression and it can be isolated without causing other changes in personality. Lozanov claims that hypermnesia should be developed (or researched) not only in the hypnotic state but also in the suggestive atmosphere of the waking state.

Following the example of other scientists, Lozanov notes in his thesis (p. 134) the relationship between paradoxical (or rapid-eye movement) sleep and the "alpha activity" characteristic of a state of wakefulness. Hypnotic sleep exists; hypnosis may be referred to as a kind of sleep; although differences have been established between sleep, hypnosis and the "alpha state" in wakefulness, there are also links between them. According to Lozanov, unconscious mental activity can (or should) be looked for not only in sleep and hypnosis but also in a more "normal" form when we are awake. Following the line of Soviet researchers,

Lozanov links the unconscious forms of mental activity in a state of wakefulness to Lenin's theory of reflection, in which signals from the material world enter the central nervous system subliminally. Such phenomena as eyeless sight (in which the skin "perceives" light), extra-sensory perception, mental suggestion à la Vasiliev and clairvoyance according to Pavlov are discussed in terms of the unconscious reflection of subliminal stimuli (pp. 137-38; pp. 149-51).

An enormous body of information enters the central nervous system in the form of subliminal signals, more or less outside the scope of the conscious mind (p. 138). Theoretically, the weaker the stimulus, i.e., the further it is from the threshold, the weaker its effect on the personality. Nevertheless, in some cases of very concentrated mental work, very strong sounds may remain unnoticed, while some weak sound may attract attention and disrupt one's work. It has been found that, in a specific sound context, subliminal words are more easily noticed and remembered when they are longer or of more frequent usage. Emotional words used or directed subliminally may cause bio-electrical or chemical reactions (pp. 138-40). Since Lozanov is principally interested in the links between unconscious mental activity and hypermnesia and in the development of super-memory in the waking state, his investigations into subliminal stimuli were related to the problem of memory.

At the Institute of Suggestology, experiments were conducted with the subliminal presentation of words in an unknown foreign

language (Hindi, for example) to see if words presented subliminally would be memorized more easily and more effectively than words presented without benefit of subliminal or "subsensory" support. While Hindi words in general proved difficult to memorize, it was found that those words presented first normally, then with "subsensory support" (or subliminal repetitions) were memorized more easily and effectively than words presented solely in a "normal" manner or merely with subliminal repetitions. Words presented subliminally were better memorized than words heard and/or seen with normal perception. As a result of his experiments, Lozanov concludes that subsensory support can become an efficient means for increasing the volume of words memorized (p. 144). In the suggestopedic language class, the "subliminal method" evolved into (or rather, was combined with) the "whispering method" used in Soviet-inspired psychotherapy in which therapeutical suggestions are presented in a whisper, under the threshold of the conscious hearing of the patient, in order to overcome anti-suggestive barriers (or mental blocks to suggestion) and to affect the unconscious mental activity (p. 145).

Unconscious mental activity in a normal state of wakefulness does not only refer to subsensory and extra-sensory stimuli. It is the basis for a large number of our activities or reactions. Unconscious mental activity is not only related to perception but also to emotions, impulses, aspirations and motivations which continue to have their own existence even after they cease to be conscious. Of particular interest to Dr. Lozanov

and his staff at the Institute of Suggestology is the relation which unconscious mental activity has to suggestion in the classroom. Inversely, Suggestopedia offers an opportunity for an experimental study of unconscious mental activity.

The principal theoretical elements of Suggestopedia are derived from the idea of unconscious mental activity, in the sense of stimuli directed toward and absorbed by the unconscious. According to the Lozanov thesis, the students must be in a suggestible state (one of relaxation and concentration) while the appropriate suggestions should come from the teachers. The principle suggestive techniques used in the Lozanov classroom are: authority, infantilization, double-planeness, intonation, rhythm, concert pseudo-passiveness (or pseudo-passivity). These six elements constitute the main stimuli of unconscious mental reactions in the students.

The concept of authority is one which tends to have negative overtones in Western democratic societies but the word (and the concept) quite obviously have a positive connotation within the context of the Lozanov Method. As Lozanov points out in Sugestologiia, the idea of authority in Suggestopedia comes from the pedagogical philosophy of A. S. Makarenko (as expressed, for example, in his work, The Road to Life) and from Lozanov's own training in psychotherapy. Both Makarenko and the Soviet-inspired medical tradition emphasize genuine authority (as opposed to artificial, oppressive authority) which is based, in the case of a given individual, on the knowledge of one's

subject, a sense of responsibility, a feeling of patriotism and a devotion to society, a sympathetic understanding of one's fellow man. According to Makarenko, the authority of the group or collective is very important and the individual is expected to subordinate his desires to the will of the group. The Lozanov thesis also speaks of the authority of the institution where the individual works, the authority of the methods practised by the teacher or doctor, the authority of the works studied and so on. Like Makarenko, Lozanov is opposed to pseudo-authority based on repression, artificial distancing between instructor and student (or doctor and patient), haughtiness, pedantry and bribery, among other things (p. 302).

It is evident that the principles of Suggestopedia derive, in large measure, from Dr. Lozanov's work as a psychotherapist and from his training as a medical doctor within the Soviet tradition. Although details of this training and specifics regarding his medical practices are rather sparse (as they are, for example, in the written works of Soviet therapists in general), the use of authoritative suggestion in psychotherapy is outlined in Sugestologiia (pp. 66 ff).

According to K. I. Platonov, "direct verbal suggestion on the conscious level can be successful only if it is made by a physician who enjoys authority with the patient."[12] Lozanov echoes this Soviet view by saying that the psychotherapist must enjoy great authority in the society to which he belongs and, in order to promote this authority, preliminary

meetings should be arranged between the new patient and patients who have already been cured by the physician. During treatment, a calm, tranquil atmosphere should be established and the doctor should create an impression of confidence through his voice and gestures as well as by what he actually says in words. The physician must do everything possible to assure the patient that he will be cured. Lozanov says that the "psychotherapist with authority is a comforter for his patients, a convincing visual example of the correct philosophical attitude towards life, a consoling confessor" (p. 68).

In Soviet-inspired psychotherapy and pedagogy, great importance is attached to the role of the group or collective. According to Makarenko, the group is the starting point of social organization. The great Soviet linguist, L. S. Vygotsky, wrote about the social origin of speech in Thought and Language. Patients are taken in groups for medical treatment and significance is attached to the suggestive effect that the collective has on the individual. "In psychotherapy, each patient takes from the 'group effect' those elements which he needs in order to emerge from his 'morbid state'" (p. 67). Following the precepts of Marxist philosophy, the role of the environment--both social and physical--is also taken into account.

In the method of integral psychotherapy outlined by Dr. Lozanov in Sugestologiia, there is a preliminary "suggestive" preparation of patients while they are waiting to enter the consultation room; the new patients meet persons who have already

been cured of ailments similar to the ones from which they are suffering. Following the example of Platonov, there is a brief conversation with each patient before he or she joins the group so that the individual can be analyzed and his (or her) difficulties, problems and maladies diagnosed. The fact that the patients are treated in groups in no way eliminates intensive care for each individual patient or member of the group. During the actual group sessions, suggestions to a given patient may be made, in a whisper, in the patient's ear. There is free abreaction at the time of the group session for individual patients if need be. However, the process of abreaction is controlled by the physician so as to avoid its taking on dramatic proportions which would negatively affect others in the group. During the group session, there is a combination of positive suggestions and retraining in attitudes in order to bring about a change in the patients' outlook on life; the patients are helped in overcoming their involvement in petty, trivial concerns and there is a process of "psychoprophylactic training" for easier coping with traumatic situations in the future (pp. 68-69).

During the first meeting with the entire group, the physician gives a lecture which is of a re-educational and "suggestive" nature. Individual patients who have been cured recount in front of the entire group how and why their physical and mental health has undergone such a great improvement. A demonstration may be made before the group of the power of suggestion and of the capacities of the human mind. These "demonstrations"

(no details of which are given in the Lozanov thesis) give visual support to the physician's lecture and strengthen his arguments. Following the lecture and the demonstration(s), the patients are asked to relax in their chairs and listen to the voice of the physician. "A brief suggestive session takes place." Individual patients may be hypnotized and, with their consent, their hypnotized state may also be demonstrated to the group. During the "suggestive session," most of the patients are fully awake but calm (in an altered state of consciousness), a small number may be in a state of hypnosis and individual patients may abreact psychotraumatic experiences. Finally, after a presentation by the physician of a certain number of positive "suggestive formulae," the patients rise to their feet "in good spirits." The therapeutical session lasts from thirty to fifty minutes (p. 69).[13]

As a part of the psychotherapeutical treatment process, Lozanov (following the example of Platonov) emphasizes the importance of the behavior of the entire medical staff, the relations between the individual patients, the role of the physical environment (arrangement and decoration of rooms, for example) and the significance of the social environment. "If the natural and social environment are able to cause an illness, they should also be able to cure and re-educate the patient" (pp. 71-72). All negative factors in the milieu must be eliminated and a positive, health-restoring atmosphere created.

According to the Lozanov thesis (p. 202), almost every

"suggestive method" relies on authority--whether this be the authority of the leader's personality, authority of dogma or belief, the authority of logic and experience. Insofar as education (or pedagogy) is concerned, the authority of the teacher and the prestige of the educational establishment are all-important as they lead to greater expectancy and higher motivation on the part of the students. "Authority is one of the factors in nonspecific mental [or psychic] reactivity" (p. 202). That is to say, the suggestive stimuli emanating from an authoritative person or source affect (or cause a reaction in) the unconscious, if not necessarily the conscious mind. Even though the individual may be unaware of the stimuli influencing him, he reacts, nonetheless.

In the suggestopedic experiments conducted by Dr. Lozanov and his staff at the Institute of Suggestology, the suggestive power of authority was such that memorization of basic materials (foreign language words and phrases) increased considerably. According to Lozanov, pupils remember best what comes from an authoritative source--a great writer, a great artist, a great teacher. In the experiments with the memorization of phrases from the poetry of a great Bulgarian writer as opposed to fragments from the work of a writer of no special importance, the students achieved much better results in the memorization of material from the great poet. The same thought expressed by a person enjoying less prestige or authority vis-à-vis the students is not retained as well.

Students are more "suggestible" regarding the information coming from an authoritative source but this increased receptivity is usually unconscious. There is very often an emotional (as opposed to a logical or rational) reaction to authority, as in the world of great art where the essential ideas may be perceived unconsciously during the period of the aesthetic experience. The role of authority in the communication process must not be too obvious for the more subtle and understated the techniques used by the one in authority, the greater the suggestibility of the recipient. Anti-suggestive barriers are more easily overcome if the student (or patient) is unaware, at the conscious level, of the actual techniques being used.

Since authority increases the motivation of the students, the teacher must play an authoritative role in the classroom. In order to command or suggest the memorization of material, the teacher must show the self-confidence of the trained actor. A positive, enthusiastic attitude is a part of authority and while the teacher must maintain a certain distance between himself (or herself) and the students, he (or she) must also radiate sympathy and understanding. No negative words or gestures are to be used while discipline is being upheld and the students are being taught. Mistakes are to be corrected in such a way that the student is inspired to improve his ability.

According to the Lozanov theory, the greater the authority of the teacher (or physician), the greater the process of "infantilization" in the students (or patients). Infantilization,

needless to say, has very little, if anything, to do with the Freudian concept of the subconscious or the Freudian idea of bringing out the patient's childhood experiences. Like the psychotherapist, the suggestopedic teacher must suggest to the students, through the role he plays, that they should have confidence in his ability, that they will memorize the appropriate materials easily and that they have the child's curiosity for new information. Infantilization is more easily achieved in a group because a group provides for an atmosphere of greater spontaneity--like the pleasant atmosphere of a well-organized children's team (pp. 224 ff).

Like certain forms of age regression achieved under hypnosis, infantilization does not mean a complete return to an earlier age (that of a child) but rather a "selective mental set-up." The experience of life and the intellectual abilities of the adult are not eliminated or decreased with infantilization but certain characteristics of the child (spontaneity, confidence, ability to memorize) are brought to the fore. In the perception of works of art, for example, the process of infantilization creates a situation in which critical logic or a fixed mental attitude is overcome; as a consequence, the aesthetic experience is more direct, spontaneous and lasting (p. 228).

According to Lozanov, infantilization is especially important for increased memorization. It is well known that the child can memorize more easily than the adult and that, with age, the function of memory begins to lose its ability, in contrast to the growth of the powers of reason. Inversely, the

constant functioning of reason often results in decreased memorization. Apart from the barrier of logic (or reasoning), there are social ideas regarding the limitations of human memory which must be overcome. (According to the Lozanov thesis, there are three principal barriers to the reception of suggestions: emotional, logical and ethical).

The process of "de-suggestion" in Suggestopedia is largely one of overcoming the mental blocks to greater memorization. In childhood, new words are memorized much more easily than in adulthood and without strain or conscious effort. (The memorization process in childhood itself is largely an unconscious one). According to Lozanov, it is only incorrect teaching methods that link memorization to great stress and strain. The maxim--everything can be acquired through hard work--is correct in theory but this maxim is wrongly interpreted if it means that the students should make extreme efforts to memorize (pp. 228-29). Rapid fatigue and reduction of the memory capacities result. Mental and physical strain follow. Muscular tension and mental stress inhibit the process of memorization and have a negative influence on the attitude or motivation of the student. Contrary to what one might expect, concentration need not be accompanied by muscle contraction and can go together with an externally passive appearance. The outward passiveness that accompanies increased memorization in the Lozanov classroom resembles the child's passiveness when he perceives and memorizes. Like the properly trained adult in a suggestopedic class, the child has

a calm, normal appearance but his mental processes are fully active. The passivity of the conscious mind and the relaxed state of the body are essential to infantilization and increased memorization. The mind is liberated (i.e., the reserves of the mind are activated) and fatigue is alleviated.

In the achievement of infantilization, certain elements are essential. Apart from the authority of the teacher (discussed above) and the "concert" state (which will be discussed further on), the creation of a positive classroom atmosphere is very important, as is the playing of roles and games and the singing of songs. From the very beginning of a suggestopedic language course, for example, each member of the class is given a new name (from the language he will be learning) and a new life story. This approach, derived from group psychotherapy, creates a "play situation" which liberates the students from their normal, real-life social roles and permits a more spontaneous and immediate expression of individual abilities. (In addition, mistakes, if any, are made in someone else's name and have a less inhibiting effect on performance). Such factors as the singing of songs remove the logical barriers to memorization and create a situation closer to that of the child's world in which everything is learned through play. Although the aims and goals of the course are adult ones, infantilization brings about an atmosphere of spontaneity, ease of learning and an absence of a feeling of pressure (pp. 229 ff). Infantilization aids adults to learn in a child-like (but not childish) way, under natural conditions, using unconscious factors.

The role of the environment, both physical and social, is an extremely important one in Soviet psychology deriving, as it does, from Marxism-Leninism and the physiological tradition of Sechenov, Bekhterev and Pavlov. According to the Soviet psychology of the 1960's, the physical and social environment affects the unconscious, as well as the conscious mind and, in line with Soviet theory, Suggestology does not consider the individual apart from the environment to which he belongs. "Double-planeness" refers to the unnoticed stimuli (or weak Pavlovian signals) which come from the milieu (the décor of the room, for example) and from the teacher's (or physician's) personality (tone of voice, gestures) and which affect the unconscious mind of the student (or patient). These subliminal stimuli have a great influence on the student's ability to learn (or the patient's chances for recovery) (pp. 231-32).

In The Word as a Physiological and Therapeutic Factor, Platonov says that, in psychotherapy, the facial expression, gestures, attitude and approach are factors in the total situation and that the "word" is a physiological agent. According to the Lozanov concept of double-planeness, there is an enormous stream of diverse stimuli which emanate from the personality unconsciously or semi-consciously. Quite often these unconscious signals (whether verbal or non-verbal) possess great information for the recipient. Imperceptible changes in tone of voice, gait, speech (as well as in the physical environment) can play a decisive role in suggesting the desired result. Usually this "second plane" in behavior is a source of our intuitive impressions which influence

our relations to persons and situations but in a way that is initially incomprehensible to the conscious mind.

Lozanov says that great actors master the art of the "double plane" intuitively and that nonspecific mental (or psychic) reactivity is a major part of the arts. In acting, for example, there are unnoticed signals (or stimuli) which affect the unconscious mind and which determine the nature of the aesthetic experience. Such elements as harmony, color, form, music, rhythm influence the emotions as well as the logical mind. The way in which a role is played by a great actor affects the unconscious mind of the spectator. The actor's tone of voice, gestures, facial expressions may give forth more "suggestions" than what he actually says. In like manner, the décor has a "suggestive effect" on the spectator (or observer).

In the area of human relationships, falseness and deceit may lie behind a warm smile while we may be able to find warmth and loyalty hidden beneath apparent roughness or clumsiness. An angry tone may be implied in words expressing anger but also in words whose literal meaning is that of love. Warmth may be given to words expressing cordial feelings but also to words which, according to their logical meaning, manifest hostility. And, by extension, the same analysis may apply to gestures, facial expressions and the like. The nonspecific (or unconscious) factors accompanying speech or human relationships most often remain unnoticed by consciousness. But they nonetheless enter the mind, at the unconscious level, and play a significant role

in shaping our impressions, decisions and moods. Nonspecific mental reactivity perceives the hidden meaning--initially through the unconscious (p. 187).

According to Lozanov, good psychotherapists and good teachers master the art of the "double plane" in the same way as good actors. It is through techniques which are unnoticed by the conscious, critical mind that the physician, like the teacher, inspires confidence, whether in a speedy recovery or in rapid learning. The "double plane" is used to promote authority, to create an atmosphere of infantilization (or relaxation). The teacher and the physician must become artists in their chosen professions. Like the physician, the teacher must pay attention to what he says and to the manner in which he says it. A change in tone of voice can change the meaning of a given phrase or text.

Suggestions can be communicated in a non-spoken way through facial expressions and ideomotory movements or "body language" but one of the important parts of the Lozanov theory comprises suggestions communicated through speech--especially through the tone of voice or "intonation." It is intonation which, according to Lozanov, conveys the real or underlying message and/or which reinforces the content of speech. Spoken instruction, which has a suggestive nature, engages the unconscious mental activity.

Much of the Lozanov theory on the suggestive power of intonation is based on Soviet psychology and psychotherapy--in particular on the work of K. I. Platonov. According to Platonov, the "word"

becomes a real and significant stimulus, in the Pavlovian sense of a conditioned reflex. To consolidate the conditioned reflex, "the physician must pronounce the words authoritatively and firmly, confidently and calmly, repeating the formula of suggestion several times (at certain levels) [. . .]" The success of a verbal suggestion is determined "not only by the content of the formula of suggestion itself but also by the expressiveness of speech, i.e., the sound intensity, the intonation of the voice, particular accents corresponding to the meaning of the uttered words, etc."[14] The tone of voice in which the "word" is pronounced can provoke physiological and/or emotional reactions. "The personality of the physician [. . .], the tone of his voice and his emotional state, which determines his behavior towards the patients, are all complexes of enormously strong and significant stimuli capable of provoking very powerful, particularly emotional, reactions in the patient's nervous system."[15]

According to the Lozanov thesis, speech affects the recipient through sense content, i.e., in a logical manner and also through rhythm, timbre and nuance, i.e., at the emotional or unconscious level. Words exercise a suggestive effect especially when they are pronounced with a soft and solemn or a commanding tone. A self-confident tone tolerates no objections; a low-voiced, rhythmical, subtle suggestion exerts an influence which may be greater than that of a direct command.

Lozanov says that intonation is one of the elements of "double plane behavior" (p. 233). The proper tone of voice

creates an atmosphere of authority and contributes to the suggestive effect of speech. In the pedagogical process, for example, the intonation of the teacher may attribute a diversity of meanings to the program presented for memorization. Insofar as authority is concerned, the tone of voice used by the teacher should inspire greater motivation on the part of the students.

Within the context of Suggestopedia, intonation is of particular importance because of its effect on memorization. In a typical experiment (p. 234), sixteen words from the poetry of P. K. Yavorov were recorded on tape at the rate of presentation of one word every five seconds. Two recordings were made by the same speaker. In the first recording, the words were pronounced (or read) in a flat, neutral tone of voice; in the second, a suggestopedic intonation of the type called "vertical intonational swing" was used. (Vertical intonational swing refers to three different voice levels or tones of voice; three phrases or words may be read together, each with a different voice level). Those who participated in the experiment were secondary school children; they heard the playback of one of the two recordings only once. A check for the memorization of the material was made immediately following the playback and a second, delayed check was made after four to five days. It was found that intonation improved memorization, especially when the check was delayed (pp. 234-37).

The same experiment was conducted with three variations: (1) with no authority and no mnemonic direction (the persons

under investigation were not told who was conducting the experiment and were not informed beforehand that a check would be made on the memorization of the material); (2) with no authority, but with mnemonic direction (the students were not told which Institute was conducting the experiment but were informed before hearing the program that a check would be made of the material to be memorized); (3) with authority and with mnemonic direction (the students were told which Institute organized the experiment and that a check would be made of the material to be memorized once the program had been played). The evidence from the appropriate experiments led to the following conclusions: (1) an increase in immediate memorization can be achieved by mnemonic direction, whether backed up by authority or not; (2) mnemonic direction alone is not enough to ensure lasting memorization even in cases where the program to be memorized is presented with "intonation"; the intonational presentation of the program to be memorized does not by itself guarantee better (or more lasting) memorization even in cases where there is mnemonic direction; (3) better and more lasting memorization in the experiments conducted was achieved solely when varying intonations were combined with an authoritative presentation of the program. Intonational presentation thus plays a positive role when it appears as a part of (or together with) authority; authority has a positive influence on memorization when it finds an acceptable external form (i.e., intonation) satisfying the expectations of the persons under investigation (p. 238).

Apart from the positive contribution of intonation to memorization, Lozanov and his colleagues found that the experience of memorization is more pleasant when there are varying intonations. Repetition facilitates memorization but it also leads to boredom; boredom is lessened or eliminated, however, by intonation. Quite apart from other factors (such as a correspondence to the three forms of yoga suggestion), the suggestopedic courses at the Institute of Suggestology use three different intonations (or voice levels) in order to vary the presentation of new items to be memorized. (The three different intonations were used, firstly, in what Lozanov calls "horizontal intonational swing," i.e., each word or phrase was repeated three times, each time with a different intonation; secondly, in what is labelled "vertical intonational swing," i.e., as mentioned above, three phrases were read together, each with a different voice level. The memorization results were apparently very similar for both "horizontal" and "vertical" intonational presentation). The three types of intonation used were: (1) normal, declarative, promising; (2) quiet, soft, ambiguous (this intonation corresponds to the "whispering method" in therapeutical practice where therapeutical suggestions are presented under the threshold of conscious identification); (3) domineering, sure, finalizing (a loud command). The emotional overtones are accompanied by physical changes in sound production. In the third type of intonation, for example, more strongly expressed amplitude changes are in evidence between the separate words in a given phrase and between the sounds in the words (pp. 241-42).

According to Lozanov, intonation (or tone of voice) cannot be separated from rhythm or rather, intonation achieves its maximum effect when the program to be memorized is presented in a rhythmical manner, with appropriate pauses between the words or phrases. In the suggestopedic courses at the Institute of Suggestology, rhythm is therefore combined with intonation in the presentation of the program to be memorized.

The Lozanov thesis does not contain much information on rhythm and furnishes no details on the "correct" rhythmical presentation of materials during the suggestopedic class. Rhythm, however, is considered to be important as a basic biological principle and as a reflection of rhythms in nature. Rhythm affects physiological processes, on the one hand, and mental life, on the other. A continuous, monotonous, rhythmic presentation can engage the nonspecific (or unconscious) mental activity and result in an easy overcoming of anti-suggestive barriers (pp. 262-63).

Lozanov says that the "suggestive effects" in medicine, advertising, teaching and so on are often presented rhythmically. By intuition and experience, psychotherapists know, for example, that the rhythmical repetition of therapeutical suggestions may bring about the hoped-for results more quickly than a single command or a solitary whispered suggestion. (Platonov found, for example, that verbal suggestions for inducing sleep were most effective when accompanied by rhythmic metronome beats--one beat every one or two seconds. The first signalling stimulus is the metronome beat, the second is the "word").[16] The various forms

of rhythm in art (especially music and dance) have a deeply penetrating suggestive effect. Rhythm, in Lozanov's view, has a positive influence on memorization. "The correct rhythmically intonational presentation of the program for memorization ensures the large size and duration of memorization" (pp. 242-43). Although Lozanov does not say so directly in his thesis, one has the impression that he would agree with the experimental results of L. L. Vasiliev as reported in Mental Suggestion: "the success of experiments in rhythmic perception of mental suggestion sent rhythmically depends on the interrelation of two rhythms: the rhythm of the sender in sending suggestions, and the rhythms of suitable moments of perception in the percipient." The synchronization of the two rhythmic patterns can be determined by electroencephalographic recordings of sender and percipient during the process of mental suggestion.[17]

While a monotonous rhythmic presentation of new material may impede memorization (for repetition induces boredom), the use of varying intonations together with rhythm gives the presentation a greater variety and hence maintains memorization at an optimal level (p. 243). The use of "vertical intonational swing" (i.e., three phrases read together, each with a different tone of voice) does not involve a repetition of the same stimulus (as is the case in "horizontal intonational swing" where each phrase is repeated three times) and means that the suggestive effect of rhythm is principally related to the presentation intervals of the separate fragments for memorization, not to the

repetition of these fragments. The importance of the interval of presentation was studied, from the beginning, in research work conducted at the Institute of Suggestology. Experiments were conducted in the memorization of words repeated or presented every second, every five seconds, every ten seconds, and so on. The results obtained showed that the proper timing of the presentation of the program to be memorized has a positive effect on memorization (p. 244).

The final principle of Suggestopedia is yet another coined term: "concert pseudo-passiveness." This term refers to the concept that suggestion, whether emanating from the teacher or the psychotherapist, is best realized when the recipient is in a deeply relaxed (but not necessarily hypnotic or somnolent) condition (p. 245). The more profoundly relaxed an individual is, the more suggestible he becomes or the more open he is to suggestions of various kinds (especially if the general atmosphere is pleasant): suggestions for elimination of fatigue, strain and stress; suggestions for rest, renewal of energy, improvement of motivation and ability to work. In the suggestopedic class (as in Dr. Lozanov's method of integral psychotherapy), the suggestive atmosphere, combined with a state of relaxation in the subjects, restores energy levels and eliminates fatigue. (According to Platonov's experiments, the verbal suggestion of pleasant experiences during suggested sleep reduced arterial pressure and pulse rate).[18] Super-memory is achieved while one is in a state of relaxation; at the Institute

of Suggestology, students in the state of "pseudo-passivity" were able to memorize the appropriate programs to the level of hypermnesia.

The state of relaxation is based on, or derived from, Savasana yoga. Lozanov studied the effects of suggestion on students when they were in a state of muscle relaxation (and accompanying mental passivity). It was found that profound relaxation facilitates memorization (p. 246). In psychotherapy, Lozanov had already discovered that relaxation based, for example, on the autogenic training of J. H. Schultz gave good results as did "our psychotherapeutical method of 'somnolent breathing' in which subliminal signals enter the general suggestive background from the respiratory movements of the treating physician" (p. 264). During the "concert session," when the language material is rhythmically read, or acted out, over a background of classical music (i.e., slow movements from 18th century baroque concerti grossi), the course members appear relaxed and calm as if they are attending a concert and do not pay active attention to the program presented for memorization. However, the suggestive set-up of "pseudo-passivity," while characteristic of behavioral passiveness of attention, is accompanied by "considerable internal activity" (p. 85). (Deep, rhythmic yoga breathing facilitates student concentration). Although this internal activity is unconscious, it is more conducive to hypermnesia than conscious, voluntary attention.

In addition to a comfortable and relaxed posture (i.e., a

state of muscle relaxation as realized by the Savasana exercise), a state of mental relaxation in a pleasant and calm atmosphere is extremely important for the elimination of fatigue, stress and strain and for the achievement of hypermnesia and speed and accuracy in work. In his thesis, Lozanov claims that mental relaxation is of greater importance for the successful outcome of the process of teaching than muscle relaxation (p. 275). The student must not only be relaxed physically and free from fatigue, he must be freed from doubts, hesitations regarding his ability, daily concerns and neuroses. Mental (or psychological) relaxation, therefore, presupposes liberation from petty worries and everyday concerns.

Positive emotions are a part of "concert pseudo-passivity." During the "concert session," the students are behaviorally passive and make no conscious, intellectual effort to memorize or understand the program that is being presented to them. However, at the unconscious level, their emotions are involved in the program which must, of course, be a positive and stimulating one, containing no negative suggestions. As in psychotherapy, the success of the pedagogical process directly depends on the subject's emotional state.[19] Classical music also aids the creation of a positive emotional response to the program for memorization. (In particular, 18th century music appeals to the "affections" or "passions" in the sense of the spiritual movement of the mind). Simultaneously with the program and music presented, there occur, in the students, complicated internal processes regarding emotions, moods and associations.

Although the scientific data presented are not entirely complete, it is clear, from Sugestologiia, that experiments were conducted at the Institute of Suggestology to test the students' physical and emotional reactions to the courses offered. It is evident, also, that much of the research centered on the "concert session" and on the corresponding state of "pseudo-passivity" in the students. Brain waves were tested; electroencephalographic recordings showed, for example, that alpha waves increased during the "concert session" while beta waves decreased. Pulse changes were observed; the pulse rate slowed down during the "concert" and there was a corresponding decrease in blood pressure. (Short periods of strenuous mental work are usually characterized by an increase in beta waves and an increase in pulse rate and blood pressure). More generally, the students showed no visible signs of fatigue, stress and strain--even after four hours of an intensive class (including one "concert" hour). Paradoxically, hypermnesia led to, or was accompanied by a state of rest. As a result of the suggestopedic classes in general and of the concert sessions in particular, the night sleep of students improved and neuroses tended to disappear. Questionnaires distributed to the students revealed great personal satisfaction with the suggestopedic course(s), in addition to improvement in mental and physical health.

The Lozanov thesis reveals the results obtained in suggestopedic courses; very often the exact means by which these results were obtained remains obscure. Statistics in Sugestologiia

are often faulty or incomplete; the evidence from several experiments tends to be fused (or even confused). Peripheral data (student questionnaires, letters to the Ministry of Education, numbers of students taking a given course, and so on) tend to be elaborated upon; essential information (the rhythm of presentation of new material, yoga exercises, for example) is often lacking. Extravagant claims are made regarding the acceleration and duration of the process of memorization, with few properly presented proofs. Most of the initial experiments at the Institute of Suggestology (and those conducted before the Institute was founded in 1965) centered on the memorization of words and, while words can be measured statistically, there is considerably more to learning a foreign language than memorizing vocabulary items.

Faced with a lack of scientific data, on the one hand, and peculiar (i.e., non-Western) terminology, on the other, the West-European or North American researcher is likely to have a negative reaction to the Lozanov thesis and, by extension, to Suggestology and Suggestopedia. Yet the reaction in Eastern Europe, especially in such prestigious institutions as the Moscow Foreign Languages Pedagogical Institute, has been very positive and Westerners who have visited the Institute of Suggestology in Sofia have been very impressed with the classes they saw and the performance of the students. It would appear that the "correct" approach to Sugestologiia is to find the underlying ideas (many of which constitute a most original contribution to education),

translate these into Western terms and reconstruct the statistical evidence in accordance with the more rigorous and less ideologically oriented methods used in Western science.

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Notes

[1] In Soviet-inspired psychotherapy, the actual techniques used are very rarely spelled out in written form and apprenticeship is considered essential to learning them. Quite apart from this tradition of vagueness of presentation, many of the original elements of "The Lozanov Language Class" have been changed or modified over the years, often for political reasons. Westerners who attended the 1971 International Symposium on the Problems of Suggestology held in Sofia and in Varna were able to view the Lozanov Method in its original form.

[2] Sugestologiia (Sofia, 1971), p. 13. All page references to this edition will henceforth be indicated in brackets at the end of a given quotation within the text. Copies of an unofficial English translation of the Lozanov thesis have been circulating in North American academic circles since Lozanov's 1971 visit to the United States and Canada. The thesis has still not been published in an official English translation.

[3] "There are many indications to suggest that a light hypnotic sleep makes it easier for a percipient to receive telepathic impressions" (L. L. Vasiliev, Experiments in Mental Suggestion [Hampshire, England, 1963], p. 127). Tests to determine student suggestibility--raising the arm, inclining the body, clenching the hands, closing the eyes, etc.--are outlined in Sugestologiia, pp. 86-87.

[4] Lozanov says that V. M. Bekhterev, the Soviet founder of Objective Psychology or Reflexology, dwells on the so-called passive perceptions which enter the general mental sphere when the active attention is absorbed by another activity or when the person is in a state of absent-mindedness. In many cases, a given stimulus, initially unnoticed by consciousness, or occurring during a dream at night, is remembered and/or acquires sense only after a given period of time (Sugestologiia, p. 176).

[5] This outline of Soviet psychology is taken from Brian Simon, ed., Psychology in the Soviet Union (Stanford, 1957), p. 8.

[6] See the article by F. V. Bassin, "Consciousness and the Unconscious," in A Handbook of Contemporary Soviet Psychology, ed., Michael Cole and Irving Maltzman (New York, 1969), pp. 400-20.

[7] "Consciousness and the Unconscious," A Handbook of Contemporary Soviet Psychology, pp. 403-04.

[8] See D. N. Uznadze, The Psychology of Set (New York, 1966). For a discussion of "set" in visual perceptions and auditory intensities, see R. G. Natadze, "Experimental Foundations of Uznadze's Theory of Set," A Handbook of Contemporary Soviet Psychology, pp. 604-24. Natadze discusses "linguistic set" in his article, "Fifty Years of Psychology in Georgia," in Psychology in the U.S.S.R: An Historical Perspective, ed., Josef Brožek and Dan I. Slobin (White Plains, N. Y., 1972), pp. 279-93.

[9] F. V. Bassin, "Consciousness and the Unconscious," A Handbook of Contemporary Soviet Psychology, pp. 414-15.

[10] For information on Soviet research in hypnopedia, see two books by F. Rubin: Current Research in Hypnopedia (New York, 1968); Learning and Sleep (Bristol, 1971). Much of the information of this section is taken from Learning and Sleep.

[11] The oscillation frequencies of brain waves are measured in cycles per second (Hz.) while the amplitudes are expressed in micro-volts (μV.). In this context we can speak about fast activity and slow activity rhythms with low, medium and high voltage (alpha rhythm, 8-13 Hz.; beta rhythm, above 13 Hz.; delta rhythm, 0.5-3 Hz.; theta rhythm, 4-7 Hz.; low voltage, 10-30 μV.; medium voltage, 30-75 μV.; high voltage, 75-200 μV.

[12] Platonov, The Word as a Physiological and Therapeutic Factor: The Theory and Practice of Psychotherapy (Moscow, 1959), p. 228.

[13] See J. H. Schultz and Wolfgang Luthe, Autogenic Methods (New York, 1969). There are obvious parallels between the session in psychotherapy and the séance (or session) in the Lozanov language class.

[14] Platonov, The Word as a Physiological and Therapeutic Factor, p. 242.

[15] Platonov, p. 261.

[16] Platonov, pp. 47, 252, 254. (For a combination of the two Pavlovian signalling systems, see the "concert" session in the Lozanov language class in which the stimulus of the music beat is combined with that of the "word").

[17] Vasiliev, pp. 128-30.

[18] Platonov, p. 210.

[19] "The success of psychotherapy directly depends on the patient's emotional state and [. . .] the physician's behavior and [. . .] the surroundings must evoke in the patient a corresponding positive reaction" (Platonov, p. 258).